AUTODOC CLUB

# How to change coil springs on a car – replacement tutorial

## VIDEO TUTORIAL




## REQUIRED TOOLS:



- Tap wrench
- Wheel impact socket
- Impact socket
- Hydraulic strut spring compressor
- Strut spring compressor
- Jack
- Coil spring compressor

BUY TOOLS

## Please note!

- Depending on the car's trim level, different coil springs may be installed
- Their stiffness depends on the number of coils and the wire diameter
- The springs are always under load, which causes them to lose their properties over time
- Excessive pressure on the springs and corrosion can cause their coils to break

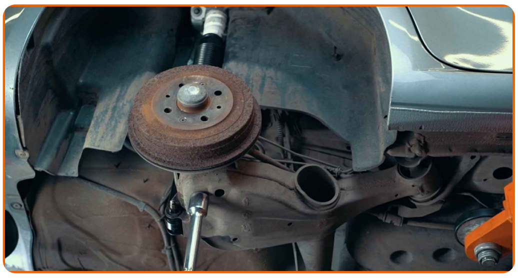
**1** Before starting to work, familiarise yourself with the suspension design



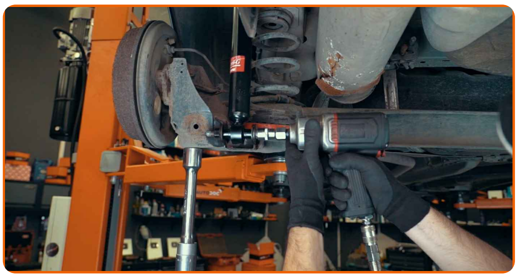
## Important!

- The spring can be a separately mounted component or be a part of the suspension strut
- Separately mounted springs can be installed on a dependent suspension (axle beam) or an independent one
- In the latter case, it is the suspension arm that is spring-loaded

**2** The axle beam should first be jacked up a little, as the shock absorber limits the spring travel. The suspension also needs to be jacked up to prevent the bushings from tearing



**3** To remove a spring from a dependent suspension, undo the lower shock absorber fasteners



**4** Before getting down to work, make sure that all the sensors and wires are disconnected from the suspension



**5** Inspect the mounts and replace them if necessary



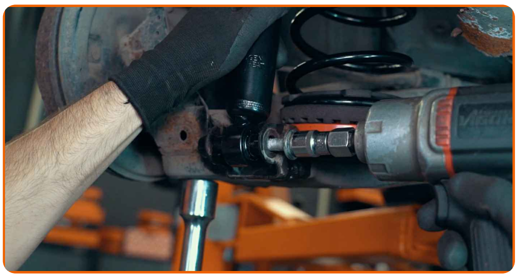
## Please note!

- If they are worn out, you will hear a squeaking noise when the springs are working

**6** Clean the mounting seats on the car body and suspension components



**7** Screw in the fasteners that attach the shock absorbers to the suspension without tightening them



## AUTODOC recommends:

- Only tighten the fasteners after jacking up the axle beam to its normal position
- In the normal position, the suspension is supporting the weight of the lowered car
- Use the tightening torque recommended by the car manufacturer

**8** In this case, first jack up the suspension arm a little and loosen the fasteners



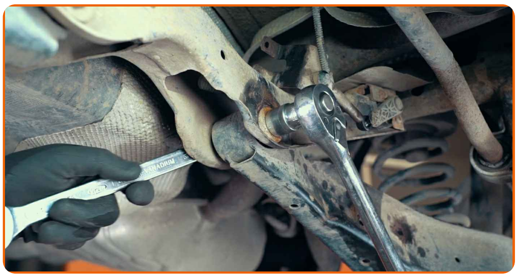
**9** If there are camber bolts, be sure to make marks. These will be used as a reference when mounting the fasteners back in place



**10** Jack up the suspension arm a little to compensate for the spring action



**11** Loosen all the suspension arm fasteners without unscrewing them completely



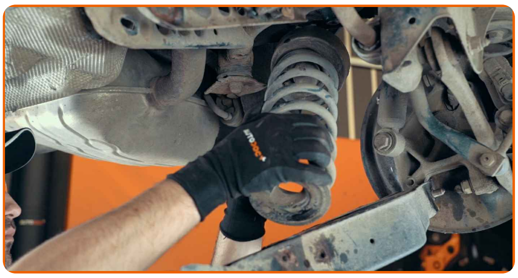
**Important!**

- This is necessary to prevent the bushings from being damaged when the arm is pulled aside

**12** Remove the fastener on one side of the suspension arm and lower the arm while lowering the transmission jack



**13** Make sure that the spring is fully released and then remove it



**14** Clean the mounting seat and install a new spring.



**15** Reassemble all the components in reverse order



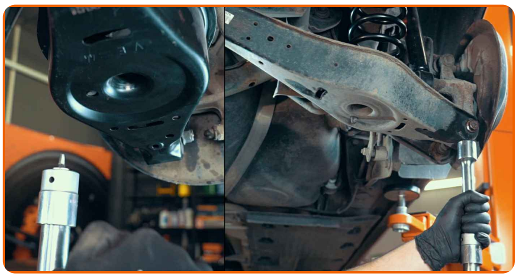
## Attention!

- Due to the high spring force, there is a risk of displacement of the jacked-up part
- To avoid this, it must be securely fastened

**16** Fit the fasteners according to the marks



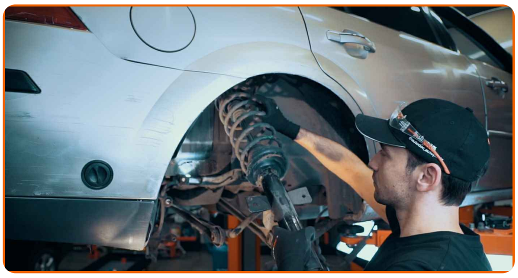
**17** Jack up the suspension arm so that the bushings take their normal position and tighten the fasteners



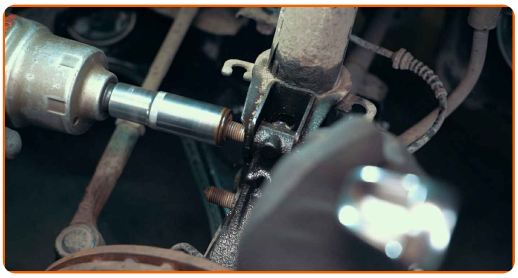
## Please note!

- A suspension strut can be fitted on either the front or rear axle
- It will need to be removed to replace the spring

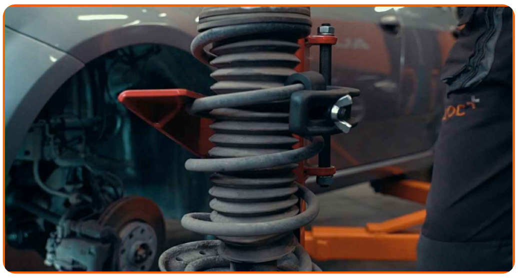
**18** On the front axle, you can access the upper fasteners of the strut from the engine bay. On the rear - via the boot or passenger compartment



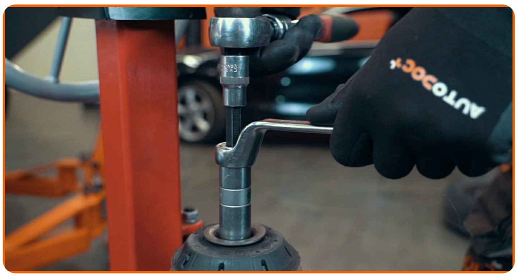
**19** Remove the lower strut fasteners. They may be located on the steering knuckle or suspension arm



**20** First, compress the spring and lock it in this position. This will unload the upper part of the strut



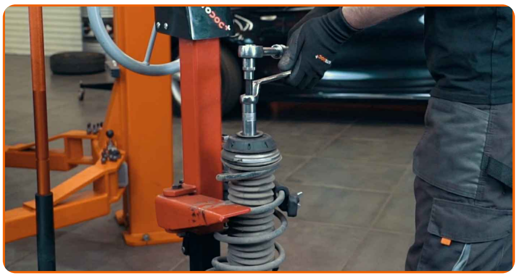
**21** Disassemble the strut



**Important!**

- You may need a special tool to unscrew the upper strut fastener

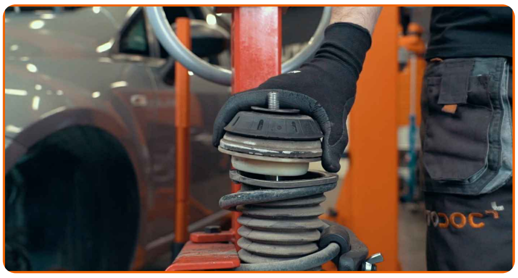
**22** When removing the parts, note their original position. For example, some mounts have a certain direction of installation



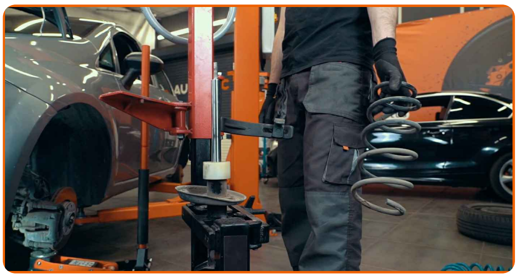
**Be careful!**

- To avoid injury, make sure that the spring does not exert any force on the mount before unscrewing the upper fastener

**23** After unscrewing the fastener, remove all the components one by one



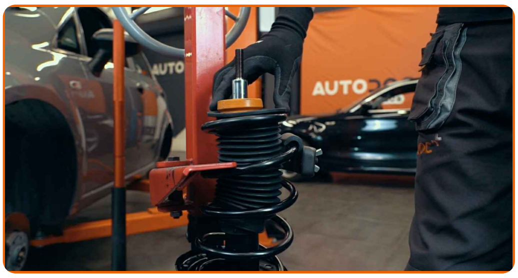
**24** Release the spring and remove it from the suspension strut



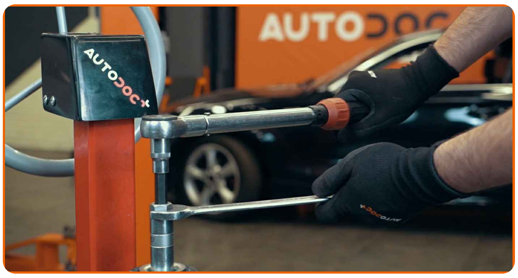
## AUTODOC experts recommend:

- Consider the direction of installation of the components
- Also note the position of the spring in its mounting seat
- Inspect the following components and replace them if necessary: the upper mount, the bearing, the dust boot, the bump stop, and the strut itself

**25** Install all the components in reverse order



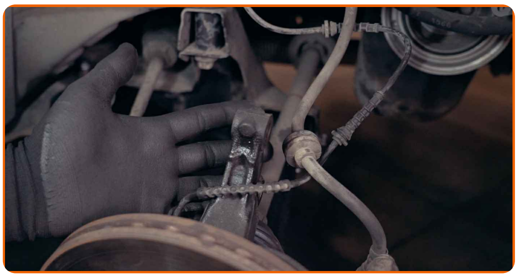
**26** Tighten the fasteners with a torque wrench to the manufacturer's recommended torque



## Important!

- Make sure that the spring is reliably secured in its mounting seats
- Remember that the components must be replaced on both sides of the axle

27 Clean the mounting seats on the car body and suspension parts



28 Install the suspension strut assembled with a new spring



29 Tighten the fasteners with a torque wrench to the manufacturer's recommended torque



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